

A2 power and performing a second plating process by immersing the substrate in a second plating solution having a composition superior in leveling ability.

Please replace the paragraph beginning at page 5, line 22, to page 6, line 2, with the following rewritten paragraph:

A3 According to another aspect of the present invention, a method for plating a substrate having a surface with fine pits formed therein and coated with a barrier layer, comprises performing a first plating process by immersing the substrate in a first plating solution having a composition superior in throwing power and in closely adhering to the barrier layer, and performing a second plating process by immersing the substrate in a second plating solution having a composition superior in leveling ability.

Please replace the paragraph beginning at page 6, line 24, to page 7, line 4, with the following rewritten paragraph:

A4 According to another aspect of the present invention, a substrate plating apparatus comprises a plating bath, first plating solution supplying means for supplying a first plating solution having a composition superior in throwing power to the plating bath, second plating solution supplying means for supplying a second plating solution having a composition superior in leveling ability to the plating bath, and switching means for switching on and off the plating solutions supplied from the first and second plating solution supplying means.

Please replace the paragraphs beginning at page 11, line 13, to line 27, with the following rewritten paragraphs:

A5 The plating apparatus is provided with a plating bath 20. A first plating solution supplying section 22a supplies a first plating solution 21 into the plating bath 20 and a second plating solution supplying section 22b supplies a second plating solution 23 into the plating bath 20.

AS The first plating solution supplying section 22a includes a pump 24a for pumping first plating solution 21 into the plating bath 20. A shut-off valve 25a is disposed upstream from the pump 24a, and a timer 26a opens and closes the shut-off valve 25a.

Similarly, the second plating solution supplying section 22b includes a pump 24b for pumping second plating solution 23 into the plating bath 20. A shut-off valve 25b is disposed upstream from the pump 24b, and a timer 26b opens and closes the shut-off valve 25b.

Please replace the paragraph beginning at page 12, line 5, to line 19, with the following rewritten paragraph:

A6 As described above, a semiconductor wafer W, having undergone a preprocess, is inserted into the plating bath 20. Wash water is introduced into the plating bath 20 and the semiconductor wafer W is washed. Next, the shut-off valve 25a is opened according to the timer 26a. The first plating solution 21 is supplied into the plating bath 20, and the first plating process is performed. After a fixed time has elapsed, the shut-off valve 25a is closed. Wash water is again introduced into the plating bath 20 for washing the semiconductor wafer W. Subsequently, the shut-off valve 25b of the second plating solution supplying section 22b is opened according to timer 26b. The second plating solution 23 is supplied into the plating bath 20 and the second plating process is performed. Accordingly, it is possible to perform both the first and second plating processes consecutively using the same apparatus.

Please replace the paragraph beginning at page 17, line 19, to line 28, with the following rewritten paragraph:

A7 In the first plating process of the present invention described above, a uniform initial plating layer without unplated areas on the side walls and bottom of the fine pit 10 is formed. In the second plating process of the present invention, a surface plating layer having a smooth surface and no void is formed on top of the initial plating layer. Accordingly, fine pits formed in the substrate, such as fine channels for wiring, can be filled with a copper, copper alloy, or other material having low electrical resistance without gaps in the metal plating and with a level surface.
